



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2014-1049; Directorate Identifier 2013-NM-110-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc., Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes. This proposed AD was prompted by reports of the horizontal stabilizer trim actuator (HSTA) spur gear bolts inside the gearbox found loose, broken, or backed out due to incorrect bending of the anti-rotation tab washer and the improper application of glue during installation. This proposed AD would require replacing certain HSTAs with a new HSTA. This proposed AD would also require revising the airplane flight manual (AFM) and the maintenance or inspection program, as applicable. We are proposing this AD to prevent failure of the HSTA and subsequent loss of control of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address

for the Docket Office (telephone 800-647-5527) is in the ADDRESSES section.

Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Luke Walker, Aerospace Engineer, Airframe and Propulsion Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7363; fax 516-794-5531.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2014-1049; Directorate Identifier 2013-NM-110-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

**Discussion**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2013-14, dated June 4, 2013

(referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes. The MCAI states:

There have been a number of reports where the HSTA spur gear bolts inside the gearbox were found loose, broken or backed out. Investigation revealed that the root cause is incorrect bending of the anti-rotation tab washer and the improper application of Loctite glue during installation.

The function of these bolts is to generate sufficient preload between the two spur gears such that the full torque is transferred by friction between the two spur gears. Loosening of the bolts would reduce the pre-load between two spur gears and decrease the torque transfer. Partial or full torque would be re-distributed to the secondary load path (Tie-Rod) in torsion. The Tie-Rod is designed to withstand axial load only in case of failure of the primary load path (ACME screw), and not torsional load. The secondary load path (Tie-Rod) is therefore considered ineffective and no longer provides protection as a failsafe design of the system. Loose bolt(s) on the HSTA spur gear combined with the failure of the primary load path, could lead to failure of the HSTA and subsequent loss of the aeroplane.

In addition, Bombardier Aerospace (BA) has introduced a modified HSTA [part number] P/N 601R92305-5 (vendor P/N 8396-4) to rectify the loose bolt problem. However, this modified HSTA, has several quality control problems which could affect safety.

This [Canadian] AD is issued to mandate the replacement of the affected HSTA(s) with the new HSTA P/N 601R92305-7 (vendor P/N 8396-5).

This proposed AD also would require revising the AFM and maintenance or inspection program, as applicable. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-1049.

## **Related Service Information**

Bombardier has issued the following service information.

- Bombardier Service Bulletin 601R-27-161, Revision A, dated January 30, 2014. This service information describes procedures for installing an HSTA.
- Bombardier CL-600-2B19, Temporary Revision 2A-56, dated June 4, 2012, to Appendix A, Certification Maintenance Requirements (CMR), of Part 2, Airworthiness Requirements, of the Bombardier CL-600-2B19 Maintenance Requirements Manual (MRM). This service information adds new CMR tasks to the Airworthiness Requirements of the MRM. These CMR tasks include an inspection, functional check, and operational check.
- Bombardier Model CL-600-2B19 Airplane Flight Manual, CSP A-012, Volume 3, Revision 61, dated April 2, 2013. This service information revises the Limitations section of the AFM to include a horizontal stabilizer trim check before the first flight of the day. In addition, this service information revises the Normal Procedures section of the AFM to include details for the horizontal stabilizer trim check portion of the procedure.

The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

## **FAA's Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in

the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

### **Costs of Compliance**

We estimate that this proposed AD affects 85 airplanes of U.S. registry. We estimate the following costs to comply with this proposed AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
HSTA replacement	8 work-hours X \$85 per hour = \$680	\$38,569	\$39,249	\$3,336,165
Revise airplane flight manual	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$7,225
Revise maintenance or inspection program	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$7,225

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

## **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Bombardier, Inc.:** Docket No. FAA-2014-1049; Directorate Identifier 2013-NM-110-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes, certificated in any category, serial numbers 7003 and subsequent, equipped with horizontal stabilizer trim actuator (HSTA) part number (P/N) 601R92305-1 (vendor P/N 8396-2), 601R92305-3 (vendor P/N 8396-3), or 601R92305-5 (vendor P/N 8396-4).

#### **(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight Controls.

**(e) Reason**

This AD was prompted by reports of the HSTA spur gear bolts inside the gearbox found loose, broken, or backed out due to incorrect bending of the anti-rotation tab washer and the improper application of Loctite glue during installation. We are issuing this AD to prevent failure of the HSTA and subsequent loss of control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Airplane Flight Manual (AFM) Revision**

Within 30 days after the effective date of this AD, revise the Limitations section and Normal Procedures section of the AFM to include the information in Supplement 23, “Horizontal Stabilizer Trim Check,” of Chapter 7 “Supplements,” of Bombardier CL-600-2B19 Airplane Flight Manual CSP A-012, Volume 3, Revision 61, dated April 2, 2013.

**(h) Maintenance/Inspection Program Revision**

Within 30 days after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate Task C27-40-103-04, “Operational Check (ground maintenance test) of the horizontal stabilizer trim control unit,” specified in Bombardier CL-600-2B19 Temporary Revision 2A-56, dated June 4, 2012, to Appendix A, Certification Maintenance Requirements, of Part 2, Airworthiness Requirements, of the Bombardier CL-600-2B19 Maintenance Requirements Manual (MRM). The compliance time for the initial operational check is within 500 flight hours after the effective date of this AD.

**(i) No Alternative Actions or Intervals**

After accomplishing the revision required by paragraph (h) of this AD, no alternative actions (e.g., inspections) and/or intervals may be used unless the actions and/or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (m) of this AD.

**(j) HSTA Replacement**

(1) For airplanes equipped with an HSTA having P/N 601R92305-1 (vendor P/N 8396-2) or P/N 601R92305-3 (vendor P/N 8396-3): At the earlier of the times specified in paragraphs (j)(1)(i) and (j)(1)(ii) of this AD, replace the HSTA with a new HSTA having P/N 601R92305-7 (vendor P/N 8396-5), in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 601R-27-161, Revision A, dated January 30, 2014. The compliance times specified in paragraphs (j)(1)(i) and (j)(1)(ii) of this AD do not alleviate any existing life limit requirements.

(i) Within 3,700 flight hours after the effective date of this AD.

(ii) Within 27 months after the effective date of this AD.

(2) For airplanes equipped with an HSTA having P/N 601R92305-5 (vendor P/N 8396-4): At the earlier of the times specified in paragraphs (j)(2)(i), (j)(2)(ii), and (j)(2)(iii) of this AD, replace the HSTA with a new HSTA having P/N 601R92305-7 (vendor P/N 8396-5), in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 601R-27-161, Revision A, dated January 30, 2014. The compliance times specified in paragraphs (j)(2)(i), (j)(2)(ii), and (j)(2)(iii) of this AD do not alleviate any existing life limit requirements.

- (i) Within 4,400 flight hours after the effective date of this AD.
- (ii) Within 32 months after the effective date of this AD.
- (iii) Before the accumulation of 10,000 total flight hours on HSTA

P/N 60192305-5 (vendor P/N 8396-4).

**(k) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraph (j) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 601R-27-161, dated May 31, 2012, which is not incorporated by reference in this AD.

**(l) Parts Installation Limitations**

(1) As of the effective date of this AD, no person may install an HSTA, P/N 601R92305-1 (vendor P/N 8396-2) or P/N 601R92305-3 (vendor P/N 8396-3) on any Model CL-600-2B19 airplane.

(2) As of the effective date of this AD, no person may install an HSTA, P/N 601R92305-5 (vendor P/N 8396-4) having serial number (S/N) 287, 724, 813, 841, 998, 1031, 1035, 1049, 1053, 1067, 1068, 1136, 1252, 1268, 1303, 1319, 1338, 1354, 1374, 1378, 1445, 1470, 1498, 1513, 1546, 1632, 1736, 1766, 1846, 1849, 2002 through 2009 inclusive, 2011, 2013 through 2016 inclusive, 2019, 2020, or 2022, on any Model CL-600-2B19 airplane.

(3) As of the effective date of this AD: Replacement of an HSTA, P/N 601R92305-1 (vendor P/N 8396-2), P/N 601R92305-3 (vendor P/N 8396-3), or P/N 601R92305-5 (vendor P/N 8396-4), with an HSTA having P/N 601R92305-5

(vendor P/N 8396-4) that is not identified in paragraph (l)(2) of this AD, is acceptable, provided the actions required by paragraph (j)(2) of this AD are accomplished within the compliance time specified in that paragraph.

**(m) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170, Engine and Propeller Directorate, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(n) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2013-14, dated June 4, 2013, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-1049.

(2) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on January 13, 2015.

John P. Piccola, Jr.,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

[FR Doc. 2015-00958 Filed 01/22/2015 at 8:45 am; Publication Date: 01/23/2015]